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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/414,104	10/07/1999	MASAKI OKADA	1232-4578	2794

27123 7590 04/06/2006

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EXAMINER	
TRAN, NHAN T	
ART UNIT	**PAPER NUMBER**
2622	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/414,104	OKADA ET AL.	
	Examiner	Art Unit	
	Nhan T. Tran	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/20/2006 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-45 are have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 2 is objected to because of recitation of "said first system controller drive signal" (lines 2-3 of claim 2) which should be corrected as -- **a** first system controller drive signal --.

Claim 3 is also objected to because of recitation of "if the completion of the first system controller drive signal operation" (lines 1-2 of claim 3) which should be corrected as -- if completion of **a** first system controller drive signal operation --.

Claim 13 is also objected to because of recitation of "the first system controller drive signal operation on the overall device" (lines 2-3 of claim 13) which should be corrected as -- **a** first system controller drive signal operation on **an** overall device--.

Claim 15 is also objected to because of recitation of "the first system controller drive signal operation on the overall device" (lines 2-3 of claim 15) which should be corrected as -- **a** first system controller drive signal operation on **an** overall device--.

Claim 16 is also objected to because of recitation of "the first system controller drive signal operation on the overall device" (lines 3-4 of claim 16) which should be corrected as -- **a** first system controller drive signal operation on **an** overall device--.

Claim 25 is also objected to because of recitation of "the power supply was turned on to said first system controller if the completion of the driving step has not been notified" (lines 2-3 of claim 25) which should be corrected as -- the power **source** was turned on to said first system controller if completion of **a** driving step has not been notified --.

Claims 29 & 30 are objected to because of recitation of "said supplying step" which should be corrected as -- a supply step --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 45 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 45 is vague and indefinite because it requires "said control means...performing initialization of said mechanical drive means" which clearly contradicts with the independent claim 40 which requires said mechanical drive means operates independently of said control means. It is clear in claim 45 that the mechanical drive means operates dependently of said control means.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 5-24 & 27-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fellegara et al (US 6,441,854 B2) in view of Kusuda Hiroyuki (JP 10-260440).

Regarding claim 1, Fellegara discloses an electronic device (a digital camera shown in Figs. 1-6) comprising:

a first system controller (controller 120 of digital subsystem 72; Fig. 6) configured to control the electronic device with an operating system (see col. 7, lines 48-65 and col. 8, lines 42-44, wherein the operating system is stored in ROM 128);

a second system controller (controller 140 of system 68; Fig. 6), which in response to a turn-on operation of a power source, starts supplying power to said first system controller, and operates independently of said first system controller, wherein the first system controller launches the operating system in response to a start of the power source (see col. 9, lines 15-17 and col. 10, lines 38-51, and note that the controller 140 operates independently of controller 120 since the controller 140 performs all power management and mechanical driving operations while the controller 120 performs image processing and communication operations for the camera as described in col. 9, lines 5-14 and col. 7, lines 48-65).

Although Fellegara discloses that the second system controller (140) control all mechanical operations including focus and zoom lens of both optical systems 14 & 16 when the power supply is turned on (col. 9, lines 5-14 and col. 11, lines 2-14), Fellegara does not explicitly disclose that the second system controller extends a lens barrel of the optical system from a collapsed position while the first system controller launches the operating system in response to the start of power supply. However, as taught by Hiroyuki, camera comprises a collapsible and extensible lens barrel (51) having a lens (50, 54) that is controlled by CPU 201. When a power source is turned on via a main switch (4) in a normal start up, the lens barrel is immediately extended from a collapsed position to a predetermined position and the camera is ready to capture images. See Hiroyuki Fig. 3, 4 & 11 and [0048].

Therefore, it would have been obvious to one of ordinary skill in the art to modify the camera apparatus in Fellegara to include the teaching of Hiroyuki for extending the

lens barrel having a lens from a collapsed position by the second system controller in parallel with launching the operating system by the first system controller right after turning on of the power source so that the camera is ready to capture images in a short time.

Regarding claim 2, Fellegara discloses that the first system controller is a central processing unit (understood as a microcontroller 120), and wherein the first system controller starts the operating system and operates a control application (i.e., for controlling image processing and communication, etc.) immediately after turning on of the power source (see Fellegara, col. 10, lines 38-51; col. 7, lines 48-65 and col. 8, lines 42-44).

Regarding claim 5, Fellegara teaches an operation unit (switches/buttons shown in Figs. 3 & 5) which inputs an operation instruction (i.e., zoom, focus or exposure operation) to the electronic device (see col. 11, lines 1-14), wherein if no operation instruction has been inputted by said operation unit within a predetermined period, the second system controller turns off the power source to the first system controller (Fellegara, col. 11, lines 9-14). Although Fellegara does not explicitly disclose that the second system controller returns said lens barrel to a status before the power source was turned on to said first system controller when the camera power source is turned off, such an operation of returning the lens barrel into a camera housing when the power source is tuned off is well recognized by Hiroyuki in Fig. 3 where the camera lens

is housed in the camera body when the camera is turned off to protect the camera lens from damage as well as providing easy handling of the camera.

Therefore, it would have been obvious to one of ordinary skill in the art to recognize the combined apparatus of Fellegara and Hiroyuki that would be configured so as return the lens barrel into the camera body during camera power-off if no input operation received within a predetermined period, thereby not only conserving camera energy but also protecting the camera lens from damage as well as providing easy handling of the camera.

Regarding claim 6, also disclosed by Fellegara is that the second system controller is a central processing unit (understood as a microcontroller 140) and is always powered (see Fellegara, col. 9, lines 15-35 and col. 10, lines 16-18, wherein the controller 140 is always powered so that it can perform wake-up to other subsystems or components of the camera when the camera is in a low power consumption mode).

Regarding claim 7, it is clear that the second system controller (140) controls the power source to the first system controller as shown by Fellegara at col. 9, lines 10-35 and col. 10, lines 16-18, 38-51.

Regarding claim 8, it is also clear in Fellegara that the second system controller is a hard-wired logic circuit (i.e., a Mitsubishi 38000 microcontroller chip as shown in Fig. 6 and col. 9, lines 15-17).

Regarding claim 9, the first system controller (120) inherently has processing speed faster than that of the second system controller (140) since the first system controller performs display, communication operations and image processing which must require a faster processing speed compared to the second system controller which manages power supply and drives mechanical parts (see Fellegara, col. 7, lines 48-65).

Regarding claim 10, it is seen in the combined apparatus that the electric consumption of the second controller must be lower than that of the first system controller because the first system controller uses a Motorolla MP823 PowerPC core for controlling various operating tasks (Fellegara, col. 7, lines 48-65) while the second system controller manages power supply and drives mechanical parts, thus requiring less power supply (see col. 6, lines 54-58).

Regarding claim 11, Fellegara clearly discloses that the electronic device is a digital still camera (see Fellegara, col. 1, lines 5-19).

Regarding claim 12, both Fellegara and Hiroyuki teach that the lens barrel protects the optical system of the digital camera (see Fellegara in Figs. 1-6 or Hiroyuki in Figs. 4 & 8).

Regarding claim 13, see the analysis of claim 1.

Regarding claims 14 & 15, see the analysis of claim 1 for the combined teachings of Fellegara and Hiroyuki, wherein the lens barrel is a collapsible lens barrel of the digital still camera.

Regarding claim 16, it is also seen in the combined camera apparatus of Fellegara and Hiroyuki that the camera has an in-use status (when the camera is turned on and being used by virtue of display being on, i.e., LCD 22 or 36 in Figs. 3 & 5 of Fellegara) and a non-use status (when the camera is turned off and not being used, i.e., LCD 22 or 36 is off) different from each other, and wherein the second system controller controls the lens barrel in parallel to the first system controller drive signal operation on an overall device (see claim 1), so as to cause the device to enter the in-use status (powered on and used) from the non-use status (powered off and not used). See Fellegara, Figs. 3 & 5 and col. 9, lines 43-60.

Regarding claims 17 & 20, see the analysis of claim 11 and Fellegara, Fig. 6 for lens 84.

Regarding claims 18 & 22, it is also seen in the combined apparatus of Fellegara and Hiroyuki that when the camera is not used, the camera is in an image sensing disabled status in which said image sensing lens is collapsed into a camera body (see Hiroyuki, Fig. 3 and [0048]).

Regarding claims 19 & 21, it is also seem in the combined apparatus of Fellegara and Hiroyuki that when the camera is used the camera is in an image sensing enabled status in which said image sensing lens is extended from a camera body to a wide-angle side position (see Hiroyuki, Fig. 4 and [0048]).

Regarding claims 23 & 24, these method claims are met by the analyses of the apparatus claims 1 & 2.

Regarding claim 27, this method is met by the analysis of the apparatus claim 5.

Regarding claims 28-30, these method claims are met by the analyses of the apparatus claims 11-15.

Regarding claims 31 & 32, these method claims are met by the analyses of the apparatus claims 16 & 17, respectively.

Regarding claims 33-37, these method claims are met by the analyses of the apparatus claims18-22, respectively.

Regarding claim 38, see the analysis of the apparatus claim 1 for the combined teachings of Fellegara and Hiroyuki. In addition, the computer program product having

readable program code is stored in the internal memory of the camera apparatus for the controllers to execute instruction codes to perform all functions as disclosed. See Fellegara, col. 7, lines 48-65; col. 8, lines 42-44 and col. 9, lines 15-35.

Regarding claim 39, this method claim is met by the analysis of the apparatus claim 16.

Regarding claim 40, Fellegara discloses an image sensing apparatus (Figs. 1-6) comprising:

image sensing means (CCD 94) for converting an optical image of an object to electric signals and outputting the electric signal (see Fig. 6; col. 5, lines 52-64 and col. 6, lines 60-67);

control means (controller 120) for controlling the image sensing device with an operating system (see Fig. 6; col. 7, lines 48-65 and col. 8, lines 42-44);

mechanical drive means (controller 140), in response to a turn-on operation of a power source, for starting supplying power to said control means, and for operating independently of said control means (see Fig. 6; col. 10, lines 38-51 and col. 9, lines 5-35, it is noted that the controller 140 operates independently of controller 120 since the controller 140 performs all power management and mechanical driving operations while the controller 120 performs image processing and communication operations for the camera);

signal processing means (combined components CDS 114, Gain 116, ADC 118 and controller 120) for generating image signals by processing the electric signals outputted from said image sensing means (see Fig. 6; col. 6, line 60 – col. 7, line 65);

file system means (digital subsystem 72) for storing image data generated by said signal processing means to a storage medium (DRAM 124 or removable memory card 130) (see Fig. 6 and col. 8, lines 35-65);

said control means (controller 120) launches the operating system in response to a start of the power source (see col. 10, lines 38-51 and col. 8, lines 42-44).

Although Fellegara discloses that the mechanical drive means (controller 140) control all mechanical operations including focus and zoom lens of both optical systems 14 & 16 when the power supply is turned on (col. 9, lines 5-14 and col. 11, lines 2-14), Fellegara does not explicitly disclose that the mechanical drive means extends a lens barrel of the optical system from a collapsed position while the control means (controller 120) launches the operating system in response to the start of power supply. However, as taught by Hiroyuki, camera comprises a collapsible and extensible lens barrel (51) having a lens (50, 54) that is controlled by CPU 201. When a power source is turned on via a main switch (4) in a normal start up, the lens barrel is immediately extended from a collapsed position to a predetermined position and the camera is ready to capture images. See Hiroyuki Fig. 3, 4 & 11 and [0048].

Therefore, it would have been obvious to one of ordinary skill in the art to modify the camera apparatus in Fellegara to include the teaching of Hiroyuki for extending the lens barrel having a lens from a collapsed position by the mechanical drive means in

parallel with launching the operating system by the control means right after turning on of the power source so that the camera is ready to capture images in a short time.

Regarding claims 41 & 42, the combined teachings of Fellegara and Hiroyuki also discloses that initialization of the file system control means controlled by said control means includes an operation of obtaining information of said storage medium from said storage, wherein the information in said storage medium includes current available capacity (i.e., a number of images can be stored on the memory card). See Fellegara, col. 9, lines 51-55 and col. 7, lines 28-47.

Regarding claim 43, Fellegara clearly discloses that the mechanical drive means includes at least a lens drive unit or an exposure drive unit (see Fig. 6 and col. 9, lines 5-17, wherein controller 140 includes mechanical I/O drivers for driving a lens and aperture).

6. Claims 3, 4, 25 & 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fellegara et al (US 6,441,854 B2) and Kusuda Hiroyuki (JP 10-260440) and in further view of Winter (US 4,521,678).

Regarding claim 3, Fellegara and Hiroyuki are silent about that if the completion of a first system controller drive signal operation has not been notified within a predetermined period since the turning on of the power source to the first system

controller, the second system controller returns the first system controller to a status before the power source was turned on to the first system controller, and turns off the power source to the first system controller.

Winter teaches a power management control method during initialization process of computer means in which two control processes are implemented. Upon receiving the supply voltage after the power switch has been turned on, the computer means performs predetermined initialization procedures. If the computer means does not successfully complete the prescribed initialization procedures before the predetermined time interval elapses, the computer means returns the computer system to its initial status before the supply voltage was turned on to ensure proper operation of the system and then turns off the supply voltage to the system's circuitry to avoid excessive drain on the battery as suggested by Winter in col. 3, lines 42-46 & line 59 to col. 4, line 4.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the combined camera apparatus of Fellegara and Hiroyuki by configuring the second system controller to manage the power supply such that if the completion of the first system controller drive signal operation has not been notified within a predetermined period since the turning on of the power supply to the first system controller, the second system controller returns the first system controller to a status before the power source was turned on to the first system controller, and turns off the power supply to the first system controller to ensure proper operation of the camera and avoid excessive drain on the battery as suggested by Winter.

Regarding claim 4, the combined apparatus of Fellegara, Hiroyuki and Winter inherently includes that the predetermined period is *longer* than the period from turning on the power source to the first system controller to normal completion of the first system controller drive signal operation by the first system controller in order for the system to function properly because if the predetermined period is shorter than the period from turning on the power source to the first system control in a normal operation, the camera apparatus would *always be turned off* after it was turned on regardless operating condition, which must be avoided.

Regarding claims 25 & 26, the method claims are met by the analysis of claims 3 & 4, respectively.

7. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fellegara et al (US 6,441,854 B2) and Kusuda Hiroyuki (JP 10-260440) and in further view of Anderson et al (US 6,157,394).

Regarding claim 44, Fellegara and Hiroyuki do not specifically teach that the control means adopts by a real time multi task monitoring system for performing various initialization operation. In a reference to Anderson, a digital camera is implemented with a multi-tasking or multi-threading CPU (344) that is capable of concurrently running multiple software routines to control overall operation of the digital camera (see Anderson, col. 3, line 64 – col. 4, line 6). It is also seen in Anderson that when the

power supply (356) is turned on, the CPU (344) must perform various initialization operations during a power-up process in order for the digital camera to function as disclosed.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the controller in the combined apparatus of Fellegara and Hiroyuki to incorporate the teaching of Anderson to adopt a real time multi task monitoring system by means of a multi tasking microprocessor for concurrently performing various initialization operations during a power-up process so as to further improve start-up time of the digital camera.

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fellegara et al (US 6,441,854 B2) and Kusuda Hiroyuki (JP 10-260440) and in further view of Fukushima Shinichi (JP 06-095754). *Note that this claim is rejected as best understood in view of the 35 U.S.C 112 2nd rejection above.*

Regarding claim 45, Fellegara and Hiroyuki do not teach that the control means simultaneously performs the initialization by performing data transmission from said storage medium by said file system means at the initialization by direct memory access (DMA) and performing initialization of said mechanical drive means and signal processing means during idle time of the DMA. Shinichi, however, teaches a DMA controller that is implemented in a computer system to simultaneously transfer system file (processing program) from an auxiliary memory into system memory (system RAM) for the initialization process just after power source is turned on, and thereafter the DMA

must be idle in order for the CPU to execute the processing program for initializing all system's functions as well as I/O devices of the system to shorten waiting time during system initialization (see Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art to further implement DMA process to simultaneously perform data transmission from a storage medium by file system means at initialization process by the DMA, and then the microprocessor or controller would perform initialization of the mechanical drive means and signal processing means during idle time of the DMA for shortening waiting time during the initialization processes.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

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